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January 10, 2005

WRITER'S DIRECT NUMBER: (202) 772-8831 INTERNET ADDRESS: JWEAVER@SKGF.COM

Art Unit 2631

Commissioner for Patents PO Box 1450 Alexandria, VA 22313-1450

Re:

U.S. Utility Patent Application

Application No. 09/986,764; Filed: November 9, 2001

For: Method and Apparatus for Reducing DC Offsets in a Communication

System

Inventors: RAWLINS *et al.*Our Ref: 1744.1330000

Sir:

Transmitted herewith for appropriate action are the following documents:

- 1. PTO Fee Transmittal Form (PTO/SB/17);
- 2. Fourth Supplemental Information Disclosure Statement;
- 3. A listing of the cited documents on Form PTO-1449 (4 pages);
- 4. Copy of the cited document (AP59);
- 5. One (1) return postcard; and
- 6. Credit Card Payment Form (PTO-2038) in the amount of \$180.00 to cover the Information Disclosure Statement Fee.

It is respectfully requested that the attached postcard be stamped with the date of filing of these documents, and that it be returned to our courier. In the event that extensions of time are necessary to prevent abandonment of this patent application, then such extensions of time are hereby petitioned.

Steme, Kessler, Goldstein & Fox PLLC. : 1100 New York Avenue, NW : Washington, DC 20005 : 202.371.2600 f 202.371.2540 : www.skgf.com

Commissioner for Patents January 10, 2005 Page 2

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

Sterne, Kessler, Goldstein & Fox P.L.L.C.

Jeffrey S. Weaver

Attorney for Applicants Registration No. 45,608

MQL/JSW:apg Enclosures

352477_1.DOC

Name (Print/Type) Jeffrey S. Weaver

Equivalent to Form

Equivalent to Form
PTO/SB/17 (12-04)
Approved for use through 07/31/2006.
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Effective on 12/08/2004. Complete if Known						
Fees pursuant to the Consolid	lated Appropria	tions Act, 2005 (H.R. 4818).	Application Number	09/986,764	 	
FEE TR	ANS	MITTAL	Filing Date	November 9, 2001		
For FY 2005			First Named Inventor	Gregory S. RAWLINS		
	-		Examiner Name	Vo, Don Nguyen		
Applicant claims small	entity status	. See 37 CFR 1.27	Art Unit	2631		
TOTAL AMOUNT OF PAY	MENT (\$)	180.00	Attorney Docket No.	1744.1330000		
METHOD OF PAYMEN	T (check all	that apply)				
Check X Credit		Money Order No	ne Other (please id	lentify)		
X Deposit Account		•	_	lame:Sterne, Kessler, Gold	letain & Foy P.I. C	
			reby authorized to: (chec		istem & FOX 1 .L.L.C.	
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under 37 CFF	R 1.16 and 1.	17	ZE Ground any or	. •		
WARNING: Information on this information and authorization	on PTO-2038	come public. Credit card in	rormation should not be in	ciuded on this form. Provid	e creat cara	
FEE CALCULATION						
1. BASIC FILING, SEAF	RCH, AND	EXAMINATION FEES				
	FILING			MINATION FEES		
Application Type	Fee (\$)	mall Entity Fee (\$) Fee (\$	Small Entity 5) Fee (\$) Fee	Small Entity (\$) Fee (\$)	Fees Paid (\$)	
Utility	300	150 500	250 20	0 100		
Design	200	100 100	50 13	0 65 .		
Plant	200	100 300	150 16	0 80 .		
Reissue	300	150 500	250 60	0 300		
Provisional	200	100 0	0	0 0 .		
2. EXCESS CLAIM FEE	:S		_	-	Small Entity	
Fee Description	ъ :	1 1 20		• •	Fee (\$) Fee (\$)	
Each claim over 20 or, for Each independent claim				•	50 25 t 200 100	
Multiple dependent claim		or Reissues, each much	chacht claim more ma	in in the original paten	360 180	
	Extra Claims	s <u>Fee (\$)</u> <u>Fee</u>	Paid (\$) Multi	ple Dependent Claims		
- 20 or HP		. x =	<u>Fe</u>	ee (\$) Fee Paid	<u>(\$)</u>	
HP = highest number of total Indep. Claims	Extra Claims	=	Paid (\$)			
3 or HP	=	. x =				
HP = highest number of indep		paid for, if greater than 3				
3. APPLICATION SIZE If the specification and		exceed 100 sheets of no	mer the application siz	ze fee due is \$250 (\$12	25 for small entity)	
for each additional	50 sheets o	r fraction thereof. See	35 U.S.C. 41(a)(1)(G)	and 37 CFR 1.16(s).	.s for sman entry)	
Total Sheets	Extra Shee	<u>Number of ea</u>	ch additional 50 or fracti	ion thereof Fee (\$)	Fee Paid (\$)	
100 = / 50 = (round up to a whole number) x =						
4. OTHER FEE(S)						
Non-English Specification, \$130 fee (no small entity discount)						
Other: Submission of	<u>if Informat</u>	ion Disclosure Staten	nent		180.00	
UBMITTED BY						
ignature	V~~ A.	J	Registration No. (Attorney/Agent) 45	Telephone	(202) 371-2600	

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

January 10, 2005



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

RAWLINS et al.

Appl. No.: 09/986,764

Filed: November 9, 2001

For:

Method and Apparatus for Reducing DC Offsets in a Communication System Confirmation No.: 5623

Art Unit: 2631

Examiner: Vo, Don Nguyen

Atty. Docket: 1744.1330000

Fourth Supplemental Information Disclosure Statement

Commissioner for Patents PO Box 1450 Alexandria, VA 22313-1450

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98. The numbering on this Fourth Supplemental Information Disclosure Statement is a continuation of the numbering in Applicants' Third Supplemental Information Disclosure Statement filed on August 11, 2004 in connection with the above-captioned application.

Applicants have listed publication dates on the attached Form PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

Applicants provide the following comments regarding the documents:

Document AD56 was cited in an Office Action in related U.S. Patent Application No. 09/476,093, filed January 3, 2000, entitled "Communication System Method With Multi-Mode and Multi-Band Functionality and Embodiments Thereof, Such as the Family Radio Service," directed to related subject matter. Also cited in said Office Action were U.S. Patent Nos. 5,937,013 and 5,790,587, which have already been cited in the present application.

Documents AE56 and AF56 were cited in a Notice of Allowance in related U.S. Patent Application No. 09/525,615, filed March 14, 2000, entitled "Method, System, and Apparatus for Balanced Frequency Up-conversion of a Baseband Signal and 4-Phase Receiver and Transceiver Embodiments," directed to related subject matter. Also cited in said Notice of Allowance were U.S. Patent Nos. 6,091,940; 6,370,371; 6,694,128; and 6,704,549, which have already been cited in the present application.

Documents AG56-AI56 were cited in an Written Opinion in related PCT Application No. PCT/US03/16403, filed May 27, 2003, entitled "Method and Apparatus for DC Offset Removal in a Radio Frequency Communication Channel," directed to related subject matter. Also cited in said Written Opinion was U.S. Patent No. 5,483,600, which has already been cited in the present application.

Documents AG56-AI56 and AA57-AF57 were cited in an Office Action in related U.S. Patent Application No. 10/290,323, filed November 8, 2002, entitled "Method and Apparatus for DC Offset Removal in a Radio Frequency Communication Channel," directed to related subject matter. Also cited in said Office Action was U.S. Patent No. 5,483,600, which has already been cited in the present application.

Documents AG57-AI57 were cited in an Office Action in related U.S. Patent Application No. 09/632,857, filed August 4, 2000, entitled "Wireless Local Area Network (WLAN) Technology and Applications Including Techniques of Universal Frequency Translation," directed to related subject matter. Also cited in said Office Action were U.S. Patent Nos. 5,937,013; 6,014,551; 6,073,001; 6,085,073; and 6,314,279, which have already been cited in the present application.

Documents AA58 and AP59 were cited in an Office Action in related U.S. Patent Application No. 09/567,977, filed May 10, 2000, entitled "Optical Down-converter Using Universal Frequency Translation Technology," directed to related subject matter. Also cited in said Office Action were U.S. Patent No. 6,608,647, Dines, J.A.B., "Smart Pixel Optoelectronic Receiver Based on a Charge Sensitive Amplifier Design," *IEEE Journal of Selected Topics in Quantum Electronics*, IEEE, Vol. 2, No. 1, pp. 117-120 (April 1996); Simoni, A. et al., "A Digital Camera for Machine Vision," 20th International Conference on Industrial Electronics, Control and Instrumentation, IEEE, pp. 879-883 (September 1994); and Stewart, R.W. and Pfann, E., "Oversampling and sigma-delta strategies for data conversion," Electronics & Communication Engineering Journal, IEEE, pp. 37-47 (February 1998), which have already been cited in the present application.

Documents AB58-AE58 were cited in a Notice of Allowance in related U.S. Patent Application No. 09/987,193, filed November 13, 2001, entitled "Method and Apparatus for a Parallel Correlator and Applications Thereof," directed to related subject matter.

Document AF58 was cited in an Office Action in related U.S. Patent Application No. 09/632,857, filed August 4, 2000, entitled "Wireless Local Area Network (WLAN) Technology and Applications Including Techniques of Universal Frequency Translation," directed to related subject matter.

Documents AG58 and AH58 are co-owned patents which are directed to related subject matter.

Documents AI58 and AA59 were cited in an Office Action in related U.S. Patent Application No. 10/289,377, filed November 7, 2002, entitled "Method and Apparatus for Reducing DC Offsets in a Communication System," directed to related subject matter.

This statement should not be construed as a representation that information more material to the examination of the present patent application does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith.

Applicants have checked the appropriate boxes below.

- 1. Statement under 37 C.F.R. 1.704(d). Each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart application and this communication was not received by any individual designated in 37 C.F.R. § 1.56(c) more than thirty days prior to the filing of this information disclosure statement.
- 2. Filing under 37 C.F.R. § 1.97(b). This Information Disclosure Statement is being filed before the mailing of a first Office Action on the merits. No statement or fee is required.

	•	ion, or Notice of Allowance, or an action that otherwise closes prosecution application.
	☐ a.	Statement under 37 C.F.R. § 1.97(e)(1). I hereby state that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1).
	□ b.	Statement under 37 C.F.R. § 1.97(e)(2). I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).
	⊠ c.	Attached is our PTO-2038 Credit Card Payment Form in the amount of \$180.00 in payment of the fee under 37 C.F.R. § 1.17(p).
☐ 4.	filed n of a Fi Enclos	under 37 C.F.R. § 1.97(d) This Information Disclosure Statement is being nore than three months after the U.S. filing date and after the mailing date nal Rejection or Notice of Allowance, but before payment of the Issue Fee. sed find our PTO-2038 Credit Card Payment Form in the amount of in payment of the fee under 37 C.F.R. § 1.17(p); in addition: Statement under 37 C.F.R. § 1.97(e)(1). I hereby state that each item of
		information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1).
	<u></u> b.	Statement under 37 C.F.R. § 1.97(e)(2). I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was

known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).

	The document(s) was/were cited in a search report by a foreign patent office in a counterpart foreign application. Submission of an English language version of the search report that indicates the degree of relevance found by the foreign office is provided in satisfaction of the requirement for a concise explanation of relevance. 1138 OG 37, 38.						
☐ 6.	A concise explanation of the relevance of the non-English language documents appears below:						
⊠ 7.	A copy of document AP59 is enclosed. However, in accordance with 37 C.F.R. § 1.98(a)(2), copies of the U.S. patents and patent application publications cited on the attached Form PTO-1449 are not enclosed.						
8.	Copies of the documents were cited by or submitted to the Office in an IDS that complies with 37 C.F.R. § 1.98(a)-(c) in Application No, filed, which is relied upon for an earlier filing date under 35 U.S.C. § 120. Thus, copies of these documents are not attached. 37 C.F.R. § 1.98(d).						
9.	It is expected that the examiner will review the prosecution and cited art in the parent application no, in accordance with MPEP 2001.06(b), and indicate in the next communication from the office that the art cited in the earlier prosecution histories have been reviewed in connection with the present application.						
	It is respectfully requested that the Examiner initial and return a copy of the						
enclose	enclosed Form PTO-1449, and indicate in the official file wrapper of this patent						
applica	ation that the documents have been considered.						

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

> M & W____

Jeffrey S. Weaver Attorney for Applicants Registration No. 45,608

Date: 1-10-05

1100 New York Avenue, N.W. Washington, D.C. 20005-3934 (202) 371-2600

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FORM PTO-1449

FOURTH SUPPLEMENTAL

	Page 1 of 4
ATTY. DOCKET NO.	APPLICATION NO.
1744.1330000	09/986,764
INVENTORS	
RAWLINS et al	

FILING DATE ART LINIT

INFO	INFORMATION DISCLOSURE STATEMENT			FILING DATE ART UNIT November 9, 2001 2631				
				TENT DOCUMENTS				
EXAMINER DOCUMENT NUMBER DATE				DATE	NAME	CLAS	SS SUB-CLASS	FILING DATE
<u></u>	AA							
	AB							
	AC							
	AD56	4,1	132,952	01/1979	Hongu et al.			
	AE56	5,2	260,973	11/1993	Watanabe			
	AF56	6,3	307,894 B2	10/2001	Eidson et al.			
_	AG56	6,0	091,289	07/2000	Song et al.			
	AH56	6,4	137,639 B1	08/2002	Nguyen et al.			
	AI56	20	02/0037706 A1	03/2002	Ichihara			
			F	OREIGN P	ATENT DOCUMENT	S		
EXAMINER INITIAL		DO	CUMENT NUMBER	DATE	COUNTRY	CLAS	SS SUB-CLASS	
	AJ							Yes No
· -· · · · · · · · · · ·	AK							Yes No
	AL							Yes No
	АМ							Yes No
			OTHER (Includ	ling Author	r, Title, Date, Pertine	nt Pages, etc.)		
	AN							
							 	
	AO							
	AP	<u>59</u>	Deboo, Gordon Inc., pp. 41-45 (ed Circuits and Semic	onductor Devic	es, 2 nd Edition,	McGraw-Hill,
	AQ							
	AR							
EXAMINER						DATE	CONSIDERED	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.



FOURTH SUPPLEMENTAL

Page 2 of 4 ATTY. DOCKET NO. APPLICATION NO. 09/986,764 1744.1330000 **INVENTORS**

RAWLINS et al.
FILING DATE ART UNIT

INFORMATION DISCLOSURE STATEMEN			NT FILING DATE ART UNIT November 9, 2001 2631				
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EXAMINER NITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA57	4,441,080	04/1984	Saari			
	AB57	4,873,492	10/1989	Myer			
	AC57	5,697,074	12/1997	Makikallio et al.			
	AD57	5,784,689	07/1998	Kobayashi			
	AE57	6,335,656 B1	01/2002	Goldfarb et al.			
	AF57	6,690,232 B2	02/2004	Ueno et al.			
	AG57	5,636,140	06/1997	Lee et al.			
	AH57	6,366,622 B1	04/2002	Brown et al.			
	Al57	6,600,795 B1	07/2003	Ohta et al.			
		F	OREIGN PA	ATENT DOCUMENTS			
EXAMINER NITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AJ						Ye
	AK						Ye N
	AL						Ye
	AM						N Ye
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

FORM PTO-1449

FOURTH SUPPLEMENTAL

	Page 3 of 4
ATTY. DOCKET NO.	APPLICATION NO.
1744.1330000	09/986,764
INVENTORS	
RAWLINS et al.	
FILING DATE	ART UNIT

INFORMATION DISCLOSURE STATEMENT November 9, 2001 2631 **U.S. PATENT DOCUMENTS** EXAMINER INITIAL DOCUMENT NUMBER NAME CLASS SUB-CLASS | FILING DATE DATE 05/2000 **AA58** 6,064,054 Waczynski et al. 06/1993 AB58 5,218,562 Basehore et al. 08/1993 AC58 5,239,496 Vancraeynest Tiemann et al. 04/1999 AD58 5,896,304 AE58 6,005,903 12/1999 Mendelovicz AF58 5,834,979 11/1998 Yatsuka 09/2004 Sorrells et al. AG58 6,798,351 B1 **AH58** 6,813,485 B2 11/2004 Sorrells et al. 04/1995 Rybicki et al. A158 5,410,270 **FOREIGN PATENT DOCUMENTS EXAMINER** DOCUMENT NUMBER DATE COUNTRY CLASS SUB-CLASS TRANSLATION INITIAL Yes AJ No Yes AK No Yes AL No Yes AM No OTHER (Including Author, Title, Date, Pertinent Pages, etc.) ΑN AO AP AQ AR **EXAMINER** DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.



FORM PTO-1449

FOURTH SUPPLEMENTAL

	Page 4 of 4
ATTY. DOCKET NO.	APPLICATION NO.
1744.1330000	09/986,764
INVENTORS	-
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RAWLINS et al.

INFORMATION DISCLOSURE STATEMENT November 9, 2001						2631			
				ENT DOCUMENTS	12001				
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE		
	AA59	6,509,777 B2	01/2003	Razavi et al.					
	АВ								
	AC								
	AD		:						
	AE								
	AF								
	AG								
	АН								
	Al								
		F	OREIGN P	ATENT DOCUMENTS					
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION		
HALLING	AJ	BOOOMENT NOMBER					Yes No		
	AK						Yes No		
	AL						Yes No		
	AM						Yes No		
		OTHER (Include	ding Author	r, Title, Date, Pertinent	Pages, etc.)				
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	АР								
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

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